

REMARKS

Initially, applicant gratefully acknowledges the Examiner's indications at items 1-2 of the Office Action that the drawings received from applicant on 09/12/03 are acceptable, and that the substitute specification received from applicant on 09/12/03 is approved.

Upon entry of the present Amendment-D the claims in the application are claims 1-3, 5-9, and 12-23, of which claims 1, 3 and 17 are independent.

Claim 17 is amended to overcome a minor typographical error therein, while claim 20 is amended to further define that the joint portion directly connects opposing upper and lower exterior surfaces of the gas flow portion of the air bag. New claims 21 and 23, depending from claims 1 and 17, respectively, further define that the gas flow path portion of the air bag is a portion which extends above an upper surface of the instrument panel to substantially cover the upper surface when the air bag is inflated; while new claim 22 depending from claim 3, further defines that the joint portion directly joins opposing exterior surfaces of the air bag together.

Applicant respectfully submits that all of the above amendments are fully supported throughout the original application, including the Figs. 1 and 14-23, and the discussion at page 7, lines 13-15. Applicant further respectfully submits that the above amendments do not introduce any new matter into the application.

Art Based Rejections

On pages 2-4 of the Office Action, the Examiner rejects claims 1-3, 7 and 16-20 under 35 U.S.C. 102(e) as anticipated by Shiota et al. (US Patent 5,427,410), while on pages 4-5 of the Office Action the Examiner rejects claims 3, 5 and 12-15 under 35 U.S.C. 102(b) as anticipated by Maruyama (US Patent 5,593,179), and on pages 5-6 of the Office Action claims 6, 8 and 9 are rejected 35 U.S.C. 103(a) as being unpatentable over Shiota. Relative to the Shiota patent, it is the Examiner's position that Shiota's airbag 10 having the cylindrical cloth 108 disposed therein reads on the airbag having at least one penetrating portion or at least one joint portion as defined in claims 1-3, 7 and 16-20, that the feature added into the independent claims in the last amendment (i.e., the

penetrating portion and joint portion is located only in the gas flow path portion) is met by the applied reference because gas flows throughout the inner spaces of the airbag of Shiota from the opening connected to container 12 beyond the cylindrical cloth 108 such that the cloth is disposed only in the gas flow path portion, and that it would have been obvious to provide multiple cylindrical cloths in Shiota's air bag for multiple effect as an obvious design variant. Regarding the Maruyama's patent, it is the Examiner's position that the air bag device disclosed in this reference includes all of the features set forth in the rejected claims viewing Maruyama's guide member 20 as connected within his air bag as the claimed joint portions, whereas such guide member is disposed only in the gas flow path portion of the airbag as indicated in his Fig. 2.

Applicant's Response

1. Upon careful consideration and in light of the above amendment to claim 20, applicant again respectfully traverses the Examiner's rejections based on the Shiota patent, and submits that each of present claims 1-3, 6-9 and 16-20 is clearly patentably distinct over the air bags of Shiota, because: the cylindrical cloth 108 of Shiota does not read on and does not make obvious the penetrating portion and the joint portion required by the independent claims 1, 3 and 17, i.e., disposed only in a gas flow path extending continuously from the gas inlet opening of the airbag to divide the gas flow path portion into two or more paths for flowing gas from the opening portion into the occupant restraint portion of the air bag; such cylindrical cloth 108 do not disclose or make obvious the features more specifically set forth in the dependent claims; and the claimed invention achieves significant advantages over the system of Shiota.

Again, each of the independent claims defines that the penetrating portion(s) and the joint portion(s) are located *only in the gas flow path of the air bag*. This feature pertains to the desirable location of the penetrating and joint portions close to the opening portion of the airbag, which permits the penetrating and joint portions to be relative small, while still providing a large amount of control/variation over the opening characteristics of the air bag. Conversely, Shiota's cylindrical cloth 108 extends significantly within the occupant restraint portion of his air bag, as

shown in his drawings (especially his Figs. 4-6), and must be so located given the functions it is required to accomplish, i.e., causing the lower portion of the air bag to inflate first, and readily discharging gas from the airbag when the bag impacts with an occupant. As particularly shown in Shiota's Fig 6, the shape of the cylindrical cloth 108 is changed (pushed forwardly) by the impact with an occupant 26 because it is disposed (at least partially) in the occupant restraint portion of the air bag.

Applicant again respectfully submits that the above distinction is very significant because the claimed air bag including the penetrating portion(s) or the joint portion(s) permits a much simpler and versatile adjustment of airbag characteristics than the air bag of Shiota. Particularly, because the penetrating portion(s) and the joint portion(s) are located only in the gas flow portion of the air bag, any necessary adjustments required to achieve a desired restraining characteristic are of a relatively small scale in comparison because the gas flow portion itself is of comparatively small scale relative to the occupant restraint portion.

In this regard, applicant notes the Examiner's interpretation of Shiota's cylindrical cloth as being disposed only in the gas flow portion of his air bag because Shiota's Fig. 2 shows that the gas flows from the opening portion to the other side of the cloth 108 indicating a commensurate flow path portion. Applicant respectfully submits, however, that such interpretation of Shiota's disclosure is unreasonable in light of the full disclosures of the present invention and the Shiota reference. Particularly, according to the present invention the gas flow path portion is a relatively small portion extending continuously from the opening portion of the air bag, while the occupant restraint portion is a relatively large portion extending continuously from the gas flow path portion such that gas flows from the opening portion to the occupant restraint portion through the gas flow path portion. In other words, the gas flow path portion is intermediate the opening portion and the occupant restraint portion.

In contrast to the disclosed and claimed structure, the Examiner's asserted interpretation of "the gas flow path portion" effectively encompasses *the entire air bag*, excluding the opening portion and the material layer of the airbag immediately in front of the occupant because the gas is shown as flowing throughout the entire inner space of Shiota's air bag. Applicant respectfully submits that such an interpretation is unreasonable, however, because there would then be no

occupant restraint portion into which gas would flow after passing through the gas flow path portion. In other words, because the Examiner's interpretation of "the gas flow path portion" effectively encompasses the entire inner space of the air bag, there can be no separate occupant restraint portion as claimed/disclosed. Further, given that the cloth 108 is shown to be collapsed upon impact with an occupant (again, see Shiota's Fig. 6), the cloth must be (at least partially) in the occupant restraint portion of the airbag. As such, applicant respectfully submits that the Examiner's assertion interpretation of Shiota's gas flow path portion extending to the beyond the side of the cloth 108 closest to the occupant is unreasonable, and whereby the rejections also fail to anticipate or make obvious the claimed occupant restraint and gas flow path portions.

Further, applicant respectfully submits that Shiota's air bag does not include or make obvious features of the dependent claims more specifically defining the penetrating and joint portions in relation to the gas flow path portion. Again, claim 20 is amended above to specifically define that the joint portion directly connects opposing upper and lower exterior surfaces of the gas flow portion of the air bag, contrary to Shiota's cylindrical cloth which is disposed within the air bag, but does not involve directly joining exterior surfaces of the gas flow portion. Further, given the disposition of the cavity 20 in the occupant restraint portion of Shiota's air bag, it does not divide his gas flow path portion into two or more flow paths for flowing the gas from the opening portion to the occupant restraint portion as defined in claim 2, nor does it reduce an opening area of the gas flow path portion as defined in claim 7. Additionally, it does not include multiple penetrating portions as defined in claim 6 or multiple penetrating portions meeting the additional limitations of claims 8-9. Still further, while Shiota discusses location of his vent hole 24 other than as shown, such comment merely refers to other locations *on his cylindrical cloth*, such that the cylindrical cloth would still vent gas outside of the air bag according to Shiota's disclosed function, and contrary to the requirement of claims 16-18 that the penetrating portion is sealed.

In this regard, applicant notes the Examiner's reference to St. Regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977). Besides the fact that this old case was not decided by the CCPA or its successor court the CAFC, it is respectfully submitted that such case is not factually similar to the present matter and does not support the Examiner's allegation that it

would have been obvious to provide multiple cylindrical cloths in Shiota's air bag. In St. Regis, the matter in question was the whether it have been obvious to include multiple layers in the construction of a bag where it was conventionally known in the prior art to use multiple layers to achieve the effect of many bags within one. On the other hand, in the present matter there is no showing or suggestion in the prior art that it would have been obvious to use multiple cylindrical cloths to achieve a multiplied effect. Rather, at most, any suggestion that may be fairly gleaned from Shiota's disclosure, is simply that *the size of the one/single* cylindrical cloth may be appropriately adjusted to achieve the disclosed effect. This is, of course, contrary to the claimed invention and supports the *unobviousness* of the discussed feature.

2. Also upon careful consideration, applicant similarly respectfully traverses the Examiner's rejection based on the Maruyama patent, and submits that each of present claims 3, 5 and 12-15 is clearly patentably distinct over the air bag of Maruyama, because: the guide member 20, 28, 30 of Maruyama does not read on and does not make obvious the joint portion required by the independent claim 3, i.e., disposed only in a gas flow path extending continuously from the gas inlet opening of the airbag to divide the gas flow path portion into two or more paths for flowing gas from the opening portion into the occupant restraint portion of the air bag; such guide members 20, 28, 30 do not disclose or make obvious the features more specifically set forth in the dependent claims; and the claimed invention achieves significant advantages over the system of Maruyama.

The disposition of the claimed joint portion(s) only in the gas flow path portion of the air bag, and the advantages of such disposition are discussed above. In direct contrast, Maruyama's guide members 20, 28, 30 are necessarily disposed in the occupant restraint portion of his air bag because the express function of the guide member is to cause is to certain occupant restraint portions (upper and lower chambers 22, 24) of his air bag to inflate prior to another occupant restraint portion (middle chamber 23), wherein the chambers 22, 24 are depicted at the sides of the guide member. With such construction and function, the guides 20, 28, 30 are by definition at least partially within the occupant restraint portion of the air bag.

In this regard, applicant notes the Examiner's interpretation of Maruyama's guide as being disposed only in the gas flow portion of his air bag because Maruyama's drawings show that the gas

flows from the opening portion to the other side of the guide indicating a commensurate flow path portion. Applicant respectfully submits, however, that such interpretation of Maruyama's disclosure is unreasonable in light of the full disclosures of the present invention and the Maruyama reference. Again, according to the present invention the gas flow path portion is a relatively small portion extending continuously from the opening portion of the air bag, while the occupant restraint portion is a relatively large portion extending continuously from the gas flow path portion such that gas flows from the opening portion to the occupant restraint portion through the gas flow path portion. In other words, the gas flow path portion is intermediate the opening portion and the occupant restraint portion.

In contrast to the disclosed and claimed structure, the Examiner's asserted interpretation of "the gas flow path portion" effectively encompasses *the entire air bag*, excluding the opening portion and the material layer of the airbag immediately in front of the occupant because the gas is shown as flowing throughout the entire inner space of Maruyama's air bag, while Maruyama discusses that the gas bounces off the inner surface of the air bag material closest to the occupant before flowing into the middle chamber 23. Applicant respectfully submits that such an interpretation is unreasonable, however, because there would then be no occupant restraint portion into which gas would flow after passing through the gas flow path portion. In other words, because the Examiner's interpretation of "the gas flow path portion" effectively encompasses the entire inner space of the air bag, there can be no separate occupant restraint portion as claimed/disclosed. Further, given that Maruyama's guide 20, 28, 30 is disposed laterally intermediate the occupant restraint chambers 22 - 24 within the inflated air bag, the guide must be (at least partially) in the occupant restraint portion of the airbag. As such, applicant respectfully submits that the Examiner's asserted interpretation of Maruyama's gas flow path portion extending to the beyond the side of the guide 20, 28, 30 closest to the occupant is unreasonable, and whereby the rejections also fail to anticipate or make obvious the claimed occupant restraint and gas flow path portions.

Further, applicant respectfully submits that given the completely open nature of Maruyama's guide, whereby gas flows on all sides thereof, the guide does not reduce an opening area of the gas flow path portion as defined in claims 13, 14.

Based on the foregoing, the Examiner's rejections of claims 1-3, 5-9 and 12-20 based on the Shiota and Maruyama references are believed to be overcome, and accordingly it is respectfully requested that the rejections be reconsidered and withdrawn.

Other Matters

New claims 21-23 are believed to be allowable over the reference of record based on the foregoing arguments concerning the merits of independent claims 1, 3 and 17, as well as on the merits of the additional features set forth in these claims.

Conclusion

In conclusion, applicant has overcome the Examiner's rejections as presented in the Office Action; and moreover, applicant has considered all of the references of record, and it is respectfully submitted that the invention as defined by each of the present claims is clearly patentably distinct thereover.

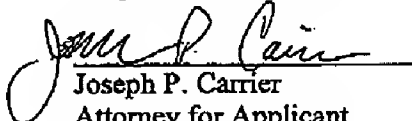
The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that she telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

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February 12, 2003

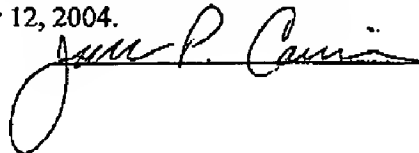
Respectfully submitted,


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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted via facsimile transmission to the US Patent & Trademark Office, Art Unit 3616, on February 12, 2004.

JPC/ms

A handwritten signature in cursive script, appearing to read "James P. Carrin", written over a horizontal line.